Amendmemts to the Claims:

The listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (withdrawn): A method of identifying an agent that modulates bone formation comprising:

(a) administering a test agent; and

(b) monitoring expression of ΔFosB to determine whether the agent modulates bone formation.

Claim 2 (withdrawn): The method of claim 1, wherein the agent is administered to isolated cells in culture.

Claim 3 (withdrawn): The method of claim 2, wherein the cells are osteoblasts or chondrocytes.

Claim 4 (withdrawn): The method of claim 3, wherein the cells are primary osteoblasts, MC3T3-E1 cells, or C2C12 cells.

Claim 5 (withdrawn): The method of claim 1, wherein the agent is administered to a non-human transgenic animal.

Claim 6 (withdrawn): The method of claim 5, wherein the transgenic animal is a mouse.

Claim 7 (withdrawn): The method of claim 5, wherein the transgenic animal can be induced to overexpress ΔFosB.

Claim 8 (withdrawn): The method of claim 1, wherein the agent is administered to cell

lysates.

Claim 9 (withdrawn): A method of identifying an agent that modulates adipogenesis comprising,

(a) administering a test agent; and

(b) monitoring expression of ΔFosB to determine whether the agent modulates adipogenesis.

Claim 10 (withdrawn): The method of claim 9, wherein the agent is administered to *in vitro* cells expressing ΔFosB.

Claim 11 (withdrawn): The method of claim 10, wherein the cells are selected from the group consisting of primary adipocytes and 3T3-L1 preadipocytes.

Claim 12 (withdrawn): The method of claim 9, wherein the agent is administered to a non-human transgenic animal.

Claim 13 (withdrawn): The method of claim 12, wherein the transgenic animal is a mouse.

Claim 14 (withdrawn): The method of claim 12, wherein the transgenic animal can be induced to overexpress ΔFosB.

Claim 15 (withdrawn): The method of claim 9, wherein the agent is administered to cell lysates.

Claim 16 (withdrawn): A method of inducing osteoblast formation comprising administering an agent that increases ΔFosB expression in pluripotent precursor cells.

Claim 17 (withdrawn): A method of inhibiting adipocyte formation comprising

administering an agent that increases ΔFosB expression in pluripotent precursor cells.

Claim 18 (withdrawn): A method of treating osteosclerosis comprising administering an agent that inhibits ΔFosB expression.

Claims 19-22 (canceled)

Claim 23 (previously presented): A method of identifying genes that are modulated by ΔFosB comprising

(a) inducing ΔFosB in a cell; and

(b) determining which genes are differentially expressed, thereby identifying genes that are modulated by ΔFosB.

Claim 24 (previously presented): The method of claim 23, wherein step (b) is performed using a yeast two-hybrid system or hybridization of cellular nucleic acids to a DNA chip.

Claims 25-30 (canceled)

Claim 31 (previously presented): The method of claim 23, wherein the cell is an *in vitro* cell.

Claim 32 (previously presented): The method of claim 31, wherein the cell is selected from the group consisting of calvarial cell, osteoblast, osteoclast, chondrocyte, and pluripotent precursor cell.

Claim 33 (previously presented): The method of claim 32, wherein the osteoblast is selected from the group consisting of MC3T3-E1, C2C12, MG-63, U2OS, UMR106, ROS 17/2.8, and SaOS2.

Claim 34 (currently amended): The method of claim 31, wherein the method <u>further</u>

comprises obtaining cell lysates from the *in vitro* cell for determining which genes are differentially expressed ~~performed using cell lysates~~.

Claim 35 (currently amended): The method of claim 31, wherein the method further comprises obtaining nuclear extracts from the *in vitro* cell for determining which genes are differentially expressed ~~is performed using nuclear extracts~~.

Claim 36 (previously presented): The method of claim 23, wherein inducing ΔFosB comprises exposing the cell to an agent selected from the group consisting of cocaine, amphetamine, nicotine, opiate, antidepressant, and antipsychotic agent.

Claim 37 (previously presented): The method of claim 23, wherein the cell is an *in vivo* cell.

Claim 38 (currently amended): The method of claim ~~37~~ 23, wherein the cell is in an animal~~;~~.

Claim 39 (previously presented): The method of claim 38, wherein the animal is a transgenic animal.

Claim 40 (previously presented): The method of claim 23, wherein the method is performed in a high throughput format.

Claim 41 (previously presented): The method of claim 23, wherein the method is performed using a DNA chip.

Claim 42 (previously presented): The method of claim 23, wherein step (b) comprises isolating RNA from the cell.

Claim 43 (previously presented): The method of claim 42, wherein step (b) comprises

obtaining an RNA expression pattern.

Claim 44 (previously presented): The method of claim 43, wherein the RNA expression pattern is obtained using a DNA chip, Northern analysis, RT PCR, RNase protection, or subtractive hybridization.

Claim 45 (new): A method of identifying genes that are modulated by ΔFosB comprising

(a) inducing ΔFosB; and

(b) determining which genes are differentially expressed, thereby identifying genes that are modulated by ΔFosB.

Claim 46 (new): A method of claim 45, wherein the method is performed using cell lysates.

Claim 47 (new): A method of claim 45, wherein the method is performed using nuclear extracts.